



Abacus Primary School

# Mathematics Policy

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# **Abacus Primary School Mathematics Policy**

Mathematics is a tool for everyday life. It is a whole network of concepts and relationships, which provide a way of viewing and making sense of the world. It is used to analyse and communicate information and ideas and to tackle a range of practical tasks and real life problems.

The aim of both the written and mental maths policy is to ensure that children will leave Abacus Primary School as mathematically literate individuals who enjoy mathematics.

Through careful planning and preparation, we aim to ensure that children are given opportunities for:

- practical activities and mathematical games
- problem solving - children are taught and given time to practise the skills for using and applying which involve the organisation of thinking, the selection of ideas and strategies to implement and evaluate these.
- developing mathematical vocabulary and language through 1:1, group and whole class discussions and activities with peers and adults.
- open and closed tasks
- developing a range of methods of calculating e.g.: mental, informal/formal written calculations and using a calculator
- working with COMPUTING as a mathematical tool

## **Homework**

Out of class activities and homework will focus on consolidating, extending and developing that which has been learnt in the classroom.

## **Links between mathematics and other subjects**

Mathematics contributes to many subjects within the primary curriculum and where possible, opportunities will be sought to draw mathematical experience out of a wide range of activities. This will allow and support children to begin to use and apply mathematics in real contexts.

## **Mathematics and Computing**

Computing will be used in various ways to support teaching and motivate children's learning. Computing will involve computers, laptops, the Interactive Whiteboard, calculators and iPads. However, they will only be used in a daily mathematics lesson when it is the most efficient and effective way of meeting the lesson objective.

## **Assessment and Record Keeping**

Formative teacher assessment and AFL is ongoing and is an integral part of planning, teaching and learning. Regular feedback to children about their progress and next steps is given to children orally and in written form as appropriate. Formal periodic assessments are carried out in line with the school assessment timetable. Evidence of individual assessment and record keeping can be found in:

- Children's books
- Pupil peer marking
- Termly Assessments
- Pupil Progress meeting minutes
- Target Tracker – teacher assessment levels
- Assessments – Autumn, Spring and Summer
- End of Key Stage SATs –Year 2 and Year 6
- Baseline for Foundation Stage and Year 1

Assessment records are passed on to the next teacher at the end of the school year and are used to inform provision for the following academic year.

Parents are informed of pupil progress through parent-teacher consultations throughout the year.

### **Pupils with Special Educational Needs (SEN) including gifted mathematics**

Children identified with SEN in mathematics are taught within the daily mathematics lesson. Activities are differentiated to ensure that the learning is accessible but challenging and accelerate children's learning. Additional support staff are strategically placed to support groups or individual children. They work collaboratively with the class teacher planning for and assessing pupil's progress; identifying next steps. Additional sessions or intervention programmes will also be delivered to individuals or small groups where appropriate. Any concerns should be raised with the SENCO.

In addition to class and school provision, pupils identified as gifted mathematicians maybe selected for additional out of class enrichment programmes and opportunities.

# **Abacus Primary School Mathematics Calculation Policy**

This policy contains the key procedures that are to be taught throughout the school. It has been written to ensure consistency and progression throughout the school and reflects a whole school agreement. Children should use mental methods when appropriate, but for calculations that they cannot do in their heads, they use an efficient written method accurately and with confidence.

The 'fundamentals' such as number bonds and multiplication tables are stressed and problem solving plays a central role in learners' mathematical development, while motivational activities help to develop inquiring minds.

## **Using and Applying**

**Before children move onto the next stage in written calculation, it is important that their skills are broadened through their use and application in a range of contexts (including money, time and other measures).**

## **Aims**

- To provide a relevant, challenging and enjoyable curriculum for all pupils, providing equal access and opportunities for all children regardless of race, gender, class, disability or ability.
- To develop a positive attitude and enthusiasm towards mathematics by ensuring that activities are rich and enjoyable experiences which enrich the mathematical experiences of all learners.
- To ensure that mental calculation and written strategies are complementary strategies as in all methods there is an element of mental processing.
- To develop children's ability to calculate, solve problems, to reason, to think logically, and to work systematically and accurately by offering plenty of opportunities to use and apply their mathematical skills.
- To ensure a consistent and progressive approach exists within the school to secure good to outstanding progress in written calculations and use of manipulatives (hands-on materials).
- Although each method will be taught in the year group specified, children should not be discouraged from using previously taught methods with which they are secure, while the new concepts are becoming embedded. In addition, if children are secure in one form of calculation differentiation should provide children the opportunity to progress to a more sophisticated form.
- For children to reflect upon which method to use to solve a problem and ask questions such as 'Can I do this in my head?', 'Can I do this in my head or do I need equipment to help me?', 'Do I need to use a written method?' then 'Is my answer sensible?'
- For children to be able to clearly explain methods of recording/representation and justify why their answers are correct using sound mathematical vocabulary and universal symbols (strong speaking and listening opportunities underpin good mathematics teaching).
- For KS2 children to develop an efficient, reliable, compact written method of calculation for each operation that they can apply with confidence and understanding when undertaking calculations that they cannot carry out solely mentally.

- To share progress in written calculations with parents so that they have the confidence and knowledge to support their children at home with their mathematical development.

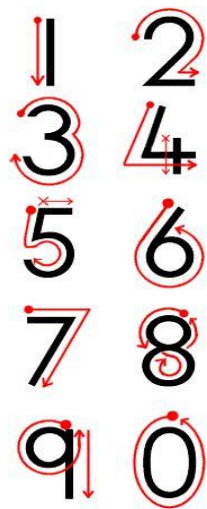
### **Building on the Early Learning Goals**

Pupils' prior experience of mathematics includes:

- counting and using numbers to at least 10 in familiar contexts
- recognising numerals 1 to 20
- talking about and creating simple patterns
- beginning to understand addition as combining two groups of objects and subtraction as 'taking away'
- describing the shape and size of solid and flat shapes
- using everyday words to describe position
- using early mathematical ideas to solve practical problems

### **Number Formation**

When children start writing their numbers, they will be taught to form digits in ways that will be expected throughout the school. Children will be given corrections as and when they need to work on their digit formation. Below are how the digits will be written within the school.



### **WHEN ARE CHILDREN READY FOR WRITTEN CALCULATIONS?**

#### **Addition and subtraction**

- Do they know addition and subtraction facts to 20?
- Do they understand place value and can they partition numbers?
- Can they add three single digit numbers mentally?
- Can they add and subtract any pair of two digit numbers mentally?
- Can they explain their mental strategies orally and record them using informal jottings?

#### **Multiplication and division**

- Do they know the 2, 3, 4, 5 and 10 time table
- Do they know the result of multiplying by 0 and 1?
- Do they understand 0 as a place holder?
- Can they multiply two and three digit numbers by 10 and 100?
- Can they double and halve two digit numbers mentally?

- Can they use multiplication facts they know to derive mentally other multiplication facts that they do not know?
- Can they explain their mental strategies orally and record them using informal jottings?

The above lists are not exhaustive but are a guide for the teacher to judge when a child is ready to move from informal to formal methods of calculation.

Updated: October 2019